

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1(Original). A method of implementing an n-th order IIR filter which comprises the steps of:

providing an IIR filter of order less than n; and
operating said IIR filter of order less than n on a time-sharing basis a plurality of times
such that said plurality of times multiplied by the order of said IIR filter of order
less than n is equal to or greater than n.

2(Original). The method of claim 1 wherein said plurality of times multiplied by said order is equal to n.

3 (Previously Presented). The method of claim 1 further including providing a decoder coupled to an input terminal of the IIR filter.

4 (Previously Presented). The method of claim 2 further including a providing decoder coupled to an input terminal of the IIR filter.

5 (Previously Presented). An implementation of an n-th order IIR filter which comprises:

an IIR filter of order less than n; and
means to operate said IIR filter of order less than n on a time-sharing basis a plurality of
times such that said plurality of times multiplied by the order of said IIR filter of
order less than n is equal to or greater than n.

6(Original). The implementation of claim 5 wherein said plurality of times multiplied by said order is equal to n.

7(Previously Presented). The implementation of claim 5 further including a decoder coupled to an input terminal of the IIR filter.

8(Previously Presented). The implementation of claim 6 further including a decoder coupled to an input terminal of the IIR filter.

9 (Previously Presented). A method according to claim 1, wherein a number of clock cycles required for computing an output of the IIR filter is independent of filter coefficients of the IIR filter.

10 (Previously Presented). The implementation of claim 5, wherein a number of clock cycles required for computing an output of the IIR filter is independent of filter coefficients of the IIR filter.